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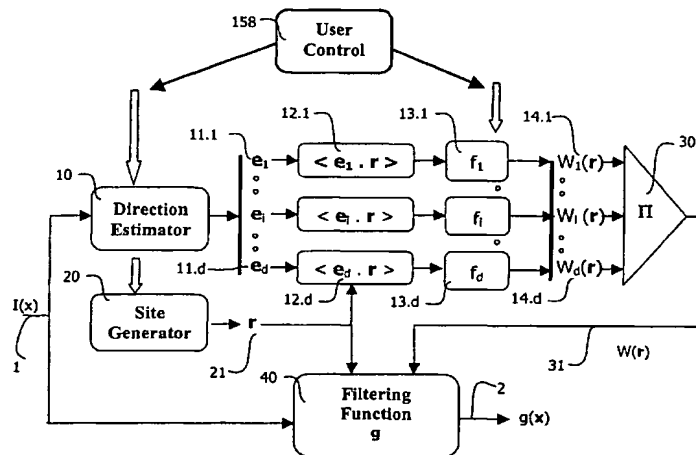
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(54) Title: GENERATING FILTERS FOR FILTERING IMAGE FEATURES ACCORDING TO THEIR ORIENTATION



(57) **Abstract:** Image processing system for generating a multidimensional adaptive oriented filter to process image data in a number d of dimensions, comprising product means for producing weighted scalar coefficients $[W_1(r), \dots, W_i(r), \dots, W_d(r)]$ of a number d of vectors of an oriented basis of vectors by a number n of local vectors related to each point; combining means (Π) for producing a set of one-scalar weight coefficients $[W(r)]$ from the combination of the weighted scalar products; and filtering means (g) for producing filtered image data $[g(x)]$ from the combination of the image data $[I(x)]$ with the one-scalar weight coefficients $[W(r)]$. The system further comprises a direction estimator (10) for providing, at each image point, an oriented orthogonal basis of a number d of vectors $(e_1, \dots, e_i, \dots, e_d)$; a site generator (20) for providing n site vectors of a local vector support; and product means for computing d scalar products of vectors of the orthogonal basis by each of the n site vectors. This system may also comprise means for providing weighting means for the scalar products through scalar functions. The filtering means may comprise a weighted normalized sum of the image data by the one-scalar weight coefficients $[W(r)]$.